

Patent Abstracts of Japan

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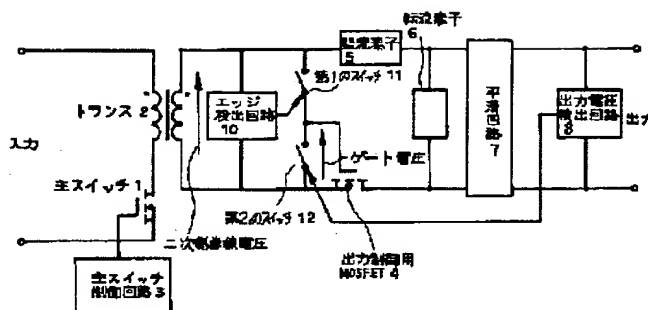
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TITLE : DC-DC CONVERTER



ABSTRACT : PROBLEM TO BE SOLVED: To constitute a DC-DC converter in a simple circuit with fewer parts so as to eliminate the need of any special actuation circuit by providing two switches which are respectively used for charging and discharging the gate capacitance of an MOSFET for controlling output and, when the output voltage of the converter exceeds a detecting voltage value, controlling the output voltage by turning off the MOSFET and modulating a rectified current in pulse width.

SOLUTION: The gate capacitance of a MOSFET 4 for controlling output is charged or discharged by the secondary-side voltage of a transformer 2. A first switch 11 is turned on by means of an edge detecting circuit 10 when the voltage at the secondary-side winding of the transformer 2 changes to the flowing direction of a rectified current. Since the electric current used for charging the gate capacitance for turning on the MOSFET 4 flows through the switch 11 from the secondary winding of the transformer 2, the MOSFET 4 is turned on synchronously to the change of the secondary winding current. When the output voltage of a DC-DC converter becomes higher and exceeds the detecting voltage value of an output voltage detecting circuit 8, the MOSFET 4 is turned off.

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